

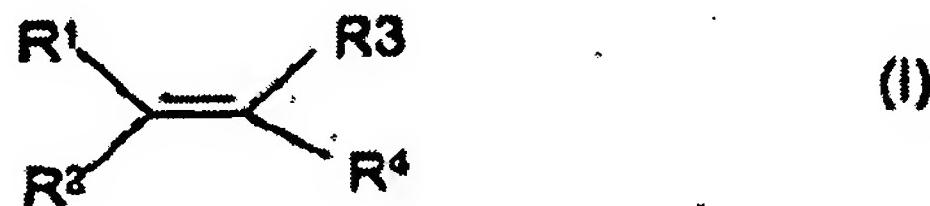
Filed: 18 September 2006

PRELIMINARY AMENDMENT

In the ClaimsListing of the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application.

1. (Currently Amended) A method for depositing a polymeric material onto a substrate, ~~said~~the method comprising introducing a monomeric material in a gaseous state into a plasma deposition chamber in which a plasma zone has a volume of at least 0.5m³, igniting a glow discharge within said chamber, and applying a voltage as a pulsed field, at a power of from 0.001 to 500w/m³ for a sufficient period of time to allow a polymeric layer to form on the surface of the substrate.
2. (Currently Amended) ~~A~~The method according to Claim 1 wherein the plasma zone within the chamber has a volume of about 1m³ or more.
3. (Currently Amended) ~~A~~The method according to Claim 2 wherein the plasma zone has a volume of between 1m³ and 10m³.
4. (Currently Amended) ~~A~~The method according to any of claims 1 to 3 of Claim 1 wherein the power is applied at from 0.001 to 100w/m³.
5. (Currently Amended) ~~A~~The method according to Claim 4 wherein the power is applied at from 0.04 to 100w/m³.
6. (Currently Amended) ~~A~~The method according to any one of the preceding claims of Claim 1 wherein the monomeric material is an unsaturated organic compound which ~~comprises~~comprising a chain of carbon atoms, which are optionally substituted by halogen.
7. (Currently Amended) ~~A~~The method according to Claim 6 wherein the monomeric material is a compound of formula (I):



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where R¹, R² and R³ are independently selected from hydrogen, alkyl, haloalkyl or aryl optionally substituted by halo; provided that at least one of R¹, R² or R³ is hydrogen, and R⁴ is a group X-R⁵ where R⁵ is an alkyl or haloalkyl group and X is a bond; a group of formula -C(O)O(CH₂)_nY- where n is an integer of from 1 to 10 and Y is a bond or a sulphonamide group; or a group -(O)_pR⁶(O)_q(CH₂)_t- where R⁶ is aryl optionally substituted by halo, p is 0 or 1, q is 0 or 1 and t is 0 or an integer of from 1 to 10, provided that where q is 1, t is other than 0.

8. (Currently Amended) ~~A~~The method according to ~~of~~ Claim 7 wherein the compound of formula (I) is an acrylate of formula (III)



where n and R⁵ are as defined above in claim 7 and R⁷ is hydrogen or C₁₋₆ alkyl.

9. (Currently Amended) ~~A~~The method according to ~~of~~ Claim 8 wherein the acrylate of formula (III) is 1H,1H,2H,3H-heptadecafluorodecylacrylate.

10. (Currently Amended) ~~A~~The method according to any one of the preceding claims of Claim 1 wherein the monomeric compound in a gaseous state is supplied to the chamber in combination with a carrier gas.

11. (Currently Amended) ~~A~~The method according to ~~of~~ Claim 10 wherein the carrier gas is helium.

12. (Currently Amended) ~~A~~The method according to any one of the preceding claims of Claim 1 wherein gaseous material is supplied to the chamber at a rate of at least 1 standard cubic centimetre per minute (sccm).

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13. (Currently Amended) ~~A~~The method according to any one of the preceding claims of Claim 1 wherein vapours of compounds of formula (I) in the chamber are maintained at pressures of from 0.01 to 300 mbar.

14. (Currently Amended) ~~A~~The method according to any one of the preceding claims of Claim 1 wherein the power is pulsed in a sequence in which the power is on for 20 μ s and off for from 1000 μ s to 20000 μ s.

15. (Currently Amended) ~~A~~The method according to any one of the preceding claims of Claim 1 wherein gas is supplied to the chamber along a temperature gradient.

16. (Currently Amended) ~~A~~The method according to any one of the preceding claims of Claim 1 wherein the chamber is heated during the deposition process.

17. (Currently Amended) ~~An apparatus~~An apparatus for depositing a polymeric material onto a substrate, ~~said~~the apparatus comprises a plasma deposition chamber, at least two electrodes arranged so as to ignite a plasma within the chamber, a pump system arranged to feed monomer gas into the chamber, and power control means programmed to pulse power supplied to the electrodes so as to produce a plasma at a power of from 0.001 to 500w/m³ within a plasma zone within the chamber, ~~said~~the plasma zone having a volume of at least 0.5m³.

18. (Currently Amended) ~~The apparatus~~An apparatus according to Claim 17 wherein the apparatus further comprises heating means for the chamber.

19. (Currently Amended) ~~The apparatus~~An apparatus according to Claim 17, or claim 18 which further comprises a container for monomer, which is connected to the chamber.

20. (Currently Amended) ~~The apparatus~~An apparatus according to Claim 19 wherein heating means ~~are~~is arranged to create an increasing temperature gradient between ~~said~~the container and ~~said~~the chamber.